

TABLE 4-continued

Coating/Fiber Ratios		
Basis Weight	Paper of Invention	Conventional Paper
80#	8%-21%	30%-42%
110#	6%-14%	20%-27%

The ratios are calculated for the various basis weights using the fiber weights listed in the table next above. For the basis weight range 60-110 lbs., it is seen that the coating/fiber ratio of the paper of the invention is on the order of 27%-52% of the coating/fiber ratio of conventional coated gloss paper, for the typical coat weight range of each.

The lower coating/fiber ratio of paper made according to the invention also results in a lower coating/basis weight ratio of the paper as compared to conventional coated gloss paper of the same basic weight, as shown by the following table:

TABLE 5

Coating/Basis Weight Ratios		
Basis Weight	Paper of Invention	Conventional Paper
60#	8%-18%	25%-31%
70#	7%-16%	21%-27%
80#	6%-14%	18%-24%
110#	4%-10%	13%-17%

For the basis weight range 60-110 lbs., it is seen that the coating/basis weight ratio of the paper of the invention is on the order of 33%-59% of the coating/basis weight ratio of conventional coated gloss paper, for the typical coat weight range of each.

While embodiments of the invention have been described in detail, various modifications and other embodiments thereof may be devised by one skilled in the art without departing from the spirit and scope of the invention, as defined in the appended claims.

What is claimed is:

1. A process for making a coated paper adapted to provide improved fusion of toner on a surface thereof at marginal fusion temperatures in an electrophotographic process, comprising the steps of providing a waterborne furnish; extruding the furnish onto a wire of a paper machine to form a paper web; pressing excess water from the web; drying the web to a moisture content less than 10%; coating each side of the paper web with a coat weight that is on the order of 2.5-5.5 pounds per side per ream; and calendering the coated paper web, said extruding and coating steps being controlled so that the coated paper has a basis weight of at least 60 pounds per ream.

2. A process as in claim 1, wherein said coating step applies a coat weight on the order of 3.5-4.0 pounds per side per ream.

3. A process as in claim 1, wherein said calendering step calenders the coated paper to a 75° TAPPI gloss of 35-50.

4. A process as in claim 1, wherein said calendering step calenders the coated paper to a 75° TAPPI gloss of about 45.

5. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight in the range of about 60-110 pounds per ream.

6. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a

basis weight of about 60 pounds per ream and a coating weight/basis weight ratio on the order of 8%-18%.

7. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight of about 70 pounds per ream and a coating weight/basis weight ratio on the order of 7%-16%.

8. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight of about 80 pounds per ream and a coating weight/basis weight ratio on the order of 6%-14%.

9. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight of about 110 pounds per ream and a coating weight/basis weight ratio on the order of 4%-10%.

10. A process as in claim 1, wherein said extruding and coating steps are controlled so that the coated paper has a coating weight/basis weight ratio of 33%-59% of the coating weight/basis weight ratio of conventional coated gloss paper for a given basis weight.

11. A process as in claim 1, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a basis weight of about 60 pounds per ream and a coating weight/fiber weight ratio on the order of 12%-31%.

12. A process as in claim 1, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a basis weight of about 70 pounds per ream and a coating weight/fiber weight ratio on the order of 10%-25%.

13. A process as in claim 1, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a basis weight of about 80 pounds per ream and a coating weight/fiber weight ratio on the order of 8%-21%.

14. A process as in claim 1, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a basis weight of about 110 pounds per ream and a coating weight/fiber weight ratio on the order of 6%-14%.

15. A process as in claim 1, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a coating weight/fiber weight ratio that is on the order of 27%-52% of the coating weight/fiber weight ratio of conventional coated gloss paper for a given basis weight.

16. A process as in claim 1, wherein said providing step provides furnish that forms a paper web having on the order of 7%-15% filler.

17. A process as in claim 1, wherein said providing step provides furnish that forms a paper web having on the order of 40%-50% less filler than is contained in a conventional paper web.

18. A process as in claim 1, including the step, prior to said coating step, of applying a precoat of lightly pigmented coating on each side of the paper web at a weight on the order of 1-2.5 pounds per side per ream.

19. A process as in claim 1, wherein said providing step provides furnish that is substantially groundwood free.

20. A process as in claim 1, wherein said providing step provides a furnish containing groundwood free high brightness bleached pulp.

21. A process for adhering toner to a coated paper, comprising the steps of providing a coated paper having a paper base and a coating on each side of the base, the coating being of a weight on the order of 2.5-5.5 pounds per side per

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ream and the coated paper having a basis weight of at least 60 pounds per ream; attracting toner to a surface of the coated paper; and, while the toner is attracted to the surface of the coated paper, subjecting the coated paper and toner to heat sufficient to melt and fuse the toner to the surface of the coated paper.

22. A process as in claim 21, wherein said providing step provides a coated paper that is calendered to a 75° TAPPI gloss of 35-50.

23. A process for making a coated paper adapted to provide improved fusion of toner on a surface thereof at marginal fusion temperatures in an electrophotographic process, comprising the steps of providing a waterborne furnish; extruding the furnish onto a wire of a paper machine to form a paper web; pressing excess water from the web; drying the web to a moisture content less than 10%; coating each side of the paper web with a coat weight that is on the order of 2.5-5.5 pounds per side per ream; said extruding and coating steps being controlled so that the coated paper has a basis weight of at least 80 pounds per ream.

24. A process as in claim 23, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight of at least 110 pounds per ream.

25. A process as in claim 23, including the step of calendering the coated paper to a 75° TAPPI gloss on the order of 35-50.

26. A process as in claim 23, wherein said extruding and coating steps are controlled so that the coated paper has a coating weight/basis weight ratio on the order of 3%-10%.

27. A process as in claim 23, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a coating weight/fiber weight ratio on the order of 5%-31%.

28. A process as in claim 23, wherein said providing step provides furnish that forms a paper web having on the order of 7%-15% filler.

29. A process as in claim 23, including the step, prior to said coating step, of applying a precoat of lightly pigmented coating on each side of the paper web at a weight on the order of 1-2.5 pounds per side per ream.

30. A process as in claim 23, wherein said providing step provides furnish that is substantially groundwood free.

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31. A process as in claim 23, wherein said providing step provides a furnish containing groundwood free high brightness bleached pulp.

32. A process for making a coated paper adapted to provide improved fusion of toner on a surface thereof at marginal fusion temperatures in an electrophotographic process, comprising the steps of providing a waterborne furnish; extruding the furnish onto a wire of a paper machine to form a paper web; pressing excess water from the web; drying the web to a moisture content less than 10%; coating each side of the paper web with a coat weight that is at least 5 pounds per side per ream; said extruding and coating steps being controlled so that the coated paper has a basis weight of at least 80 pounds per ream.

33. A process as in claim 32, wherein said extruding and coating steps are controlled so that the coated paper has a basis weight of at least 110 pounds per ream.

34. A process as in claim 32, including the step of calendering the coated paper to a 75° TAPPI gloss on the order of 35-50.

35. A process as in claim 32, wherein said extruding and coating steps are controlled so that the coated paper has a coating weight/basis weight ratio on the order of 6%-10%.

36. A process as in claim 32, wherein said providing step provides a waterborne furnish containing fiber and said extruding and coating steps are controlled so that the coated paper has a coating weight/fiber weight ratio on the order of 5%-31%.

37. A process as in claim 32, wherein said providing step provides furnish that forms a paper web having on the order of 7%-15% filler.

38. A process as in claim 32, including the step, prior to said coating step, of applying a precoat of lightly pigmented coating on each side of the paper web at a weight on the order of 1-2.5 pounds per side per ream.

39. A process as in claim 32, wherein said providing step provides furnish that is substantially groundwood free.

40. A process as in claim 32, wherein said providing step provides a furnish containing groundwood free high brightness bleached pulp.

41. A process as in claim 21, wherein the coated paper has a basis weight of at least 110 pounds per ream.

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